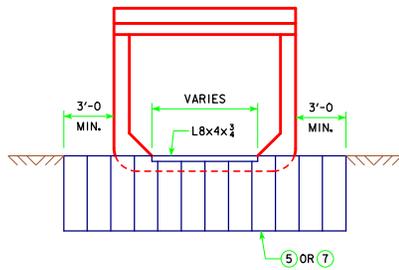
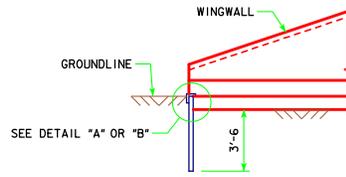


ENGLISH:SIGNEDPRECASTCULVERTS.DGN - PES_4-13 - THIS SHEET ISSUED 01-13.

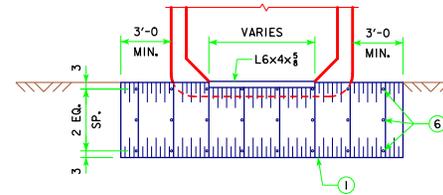


END VIEW

ALTERNATES 1 & 2 (GALVANIZED STEEL SHEET PILING)

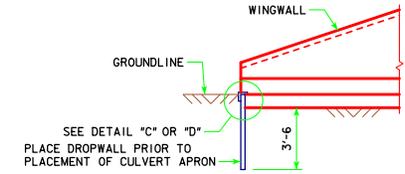


ELEVATION

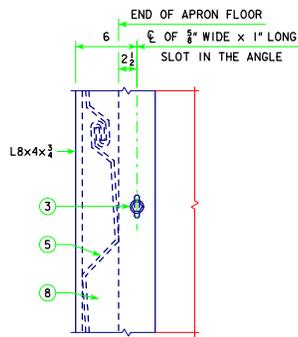


END VIEW

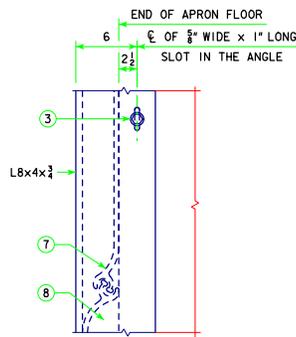
ALTERNATES 3 & 4 (GALVANIZED STEEL SHEETS)



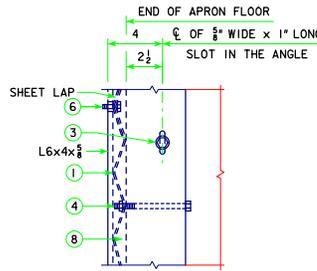
ELEVATION



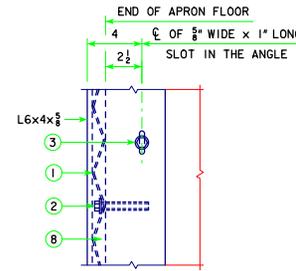
PLAN



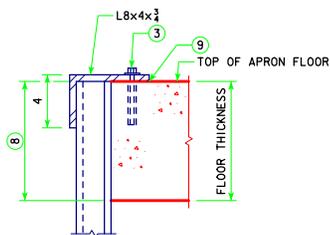
PLAN



PLAN

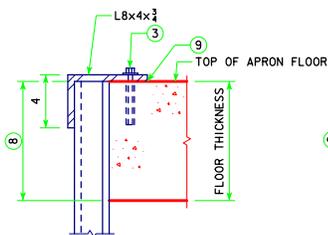


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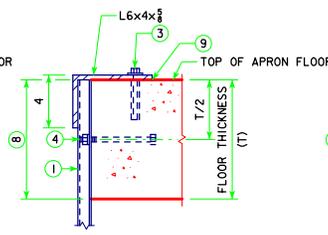
ELEVATION

DETAIL "A"
ALTERNATE 1
STEEL SHEET PILING SHOWN



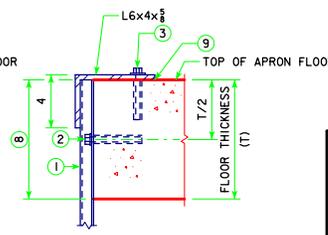
ELEVATION

DETAIL "B"
ALTERNATE 2
STEEL SHEET PILING SHOWN



ELEVATION

DETAIL "C"
ALTERNATE 3
ON NEW CONSTRUCTION ONLY



ELEVATION

DETAIL "D"
ALTERNATE 4
ON NEW OR OLD CONSTRUCTION

NOTES:

- USE OF ALTERNATE CURTAIN WALLS SHALL BE APPROVED BY THE ENGINEER.
- ALL CURTAIN WALL MATERIAL, INCLUDING BOLTS, NUTS, WASHERS, AND ANGLES SHALL BE GALVANIZED.
- 1 2 1/2"x1/2" OR 2"x1/2" CORRUGATED (12 GAGE OR HEAVIER) GALVANIZED STEEL SHEETS.
- 2 FASTEN THE STEEL SHEETS TO THE FRONT EDGE OF THE APRON WITH 3/8" x0'-4 BOLTS AND APPROVED ANCHORAGES (10" CENTER TO CENTER, TO THE NEAREST VALLEY).
- 3 FASTEN THE L8x4x1/2 OR L6x4x5/8 WITH 3/8" x0'-4 BOLTS, 1" O.D. WASHER AND AN APPROVED ANCHORAGE (2'-0 SPACING).
- 4 FASTEN THE STEEL SHEETS TO THE FRONT EDGE OF THE APRON WITH 3/8" x0'-5 BOLTS WITH NUT AND LOCK WASHER (10" CENTER TO CENTER, TO THE NEAREST VALLEY).
- 5 GALVANIZED CORRUGATED (12 GAUGE OR HEAVIER) STEEL SHEET PILING, INTERLOCKING TYPE A.
- 6 3/8" x0'-1 BOLT WITH NUT, TO LAP STEEL SHEETS.
- 7 GALVANIZED STEEL SHEET PILING, SECTION PS 27.5 OR EQUAL.
- 8 FILL THE VOIDS AS SHOWN, WITH CONCRETE OR CONCRETE GROUT, AS APPROVED BY THE ENGINEER.
- 9 CAULK JOINT BETWEEN TOP OF APRON FLOOR AND ANGLE. CAULKING MATERIAL SHALL BE NEUTRAL CURE AND NON-SAG SILICONE. THREE PRODUCTS MEETING THESE CRITERIA ARE DOW 888, CSL 342 JOINT SEALANT, AND CRAFCO ROAD SAVER SILICONE.

LATEST REVISION DATE Approved by: <i>Thomas E. Mc Donnell</i> APPROVED BY BRIDGE ENGINEER	
	STANDARD DESIGN SINGLE PRECAST REINFORCED CONCRETE BOX CULVERTS JANUARY, 2013
	ALTERNATE CURTAIN WALL DETAILS
PES 4-13	